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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,831	09/10/2003	Peter J. Black	990486D1	5958
23696 7590 09/21/2011 QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121				
EXAMINER				
TSEGAYE, SABA				
ART UNIT		PAPER NUMBER		
2467				
NOTIFICATION DATE		DELIVERY MODE		
09/21/2011		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com

Office Action Summary**Application No.**

10/659,831

Applicant(s)

BLACK ET AL.

Examiner

SABA TSEGAYE

Art Unit

2467

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-3, 5, 6 and 12-17 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-3, 5, 6 and 12-17 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-SB-08)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/14/11 has been entered.
2. Claims 1-3, 5, 6, and 12-17 are pending. Currently no claims are in condition for allowance.

Claim Rejections - 35 USC § 103

3. Claims 1, 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagatani et al. (US 6,097,714) in view of Schwartz (US 6,556,551 B1).

Nagatani discloses an apparatus (base station), comprising: a first PN generator (63a); a first spreader (64 of 51₁) to receive and spread a first pilot data (61b) with the first PN sequence ((63a)...column 8, lines 33-49); a second PN generator to generate a second PN sequence (63a of 51₂); and a second spreader (64 of 51₂) to receive and spread a second pilot data (61b of 51₂) with the second PN sequence (63a of 51₂). As shown in Fig. 2, the spread-spectrum modulating units 51₁-51_n of the first and nth channel each include frame generator 61, spreading code generator 63, spread-spectrum modulator circuit 63, and PN sequence generator 63a. However, Nagatani does not explicitly disclose first and second frequencies and generating the PN sequences in different offsets.

Schwartz teaches that a pilot beacon for use in a CDMA system using different carrier frequencies. As shown in Fig. 5, multi-frequency pilot beacons 114 are transmitted in pilot channel A-C at each carrier frequency F1-Fn. Specifically, multi-frequency pilot beacon 104 has separate multi-frequency beacon units 116a-116c for generating PN sequences with offsets PNa, PNb, PNc at carrier frequencies F1-F12 (Abstract; column 5, lines 44-65; column 7, lines 1-5; claim 1).

It would have been obvious to one ordinary skill in the art at the time the invention was made to add a system that use first and second frequencies and generating the PN sequences in different offsets, such as that suggested by Schwartz, in the communication system Nagatani in order provide hard handoff operation and to provide a multi-frequency pilot beacon which is easy to manufacture and integrate in a CDMA system including in-building micro-cells (Schwartz column 3, lines 49-57).

4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagatani in view of Schwartz as applied to claim 1 above, and further in view of Dajer et al. (US 6,587,448 B1).

Nagatani in view of Schwartz discloses all the claim limitations as stated above. Nagatani, further, discloses a CDMA base station and Schwartz teaches a CDMA system using at least two different carrier frequencies for supplying PN sequences at these frequencies. However, Nagatani in view of Schwartz does not disclose to use different CDMA format.

Dajer teaches a base station that supports multiple communication standards such as IS-95C, cdma2000 or UMTS (column 5, lines 11-50; column 9, lines 45-65).

It would have been obvious to one ordinary skill in the art at the time the invention was made to add a system that use different CDMA format, such as that suggested by Dajer, in the base station of Nagatani in view of Schwartz in order to provide improved base station that support multiple communication standards (summary).

5. Claims 5, 6, 13, 14, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagatani in view of Schwartz as applied to claim 1 above, and further in view of McDonough (US 6,452,959 B1).

Nagatani in view of Schwartz discloses all the claim limitations as stated above. Nagatani discloses that each modulating units 511-51n includes PN sequence generator 63a, as shown in Fig. 2. Dajer teaches base station support multiple communicating standards such as IS-95. however, Nagatani in view of Schwartz and Dajer does not expressly disclose PN generator capable of generating a sequence based on characteristic polynomial comprising $P_{I(x)} = X^{15} + X^{13} + X^9 + X^8 + X^7 + X^5 + 1$; and $P_{Q(x)} = X^{15} + x^{12} + x^{11} + x^{10} + x^6 + x^5 + x^4 + x^3 + 1$.

McDonough discloses that according to IS-95 standards, the short code I-sequence is associated with polynomial $P_{I(x)} = X^{15} + X^{13} + X^9 + X^8 + X^7 + X^5 + 1$; and the Q-sequence is associated with the polynomial $P_{Q(x)} = X^{15} + x^{12} + x^{11} + x^{10} + x^6 + x^5 + x^4 + x^3 + 1$ (column 12, line 64-column 13, line 13).

It would have been obvious to one ordinary skill in the art at the time the invention was made to add a system that generate a sequence based on characteristic polynomial, such as that suggested by McDonough, in the PN generator of Nagatani in view of Schwartz and Dajer in order to provide the starting position of the PN sequences are according to the IS-95 standards.

Response to Arguments

6. Applicant's arguments with respect to claims 1-3, 5, 6, and 12-17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SABA TSEGAYE whose telephone number is (571)272-3091. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan A. Phillips can be reached on (571) 272-3940. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Saba Tsegaye
Examiner
Art Unit 2467

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Examiner, Art Unit 2467

Application/Control Number: 10/659,831

Page 6

Art Unit: 2467

/ROBERT C. SCHEIBEL/

Primary Examiner, Art Unit 2467